Forest Vegetation - Overview

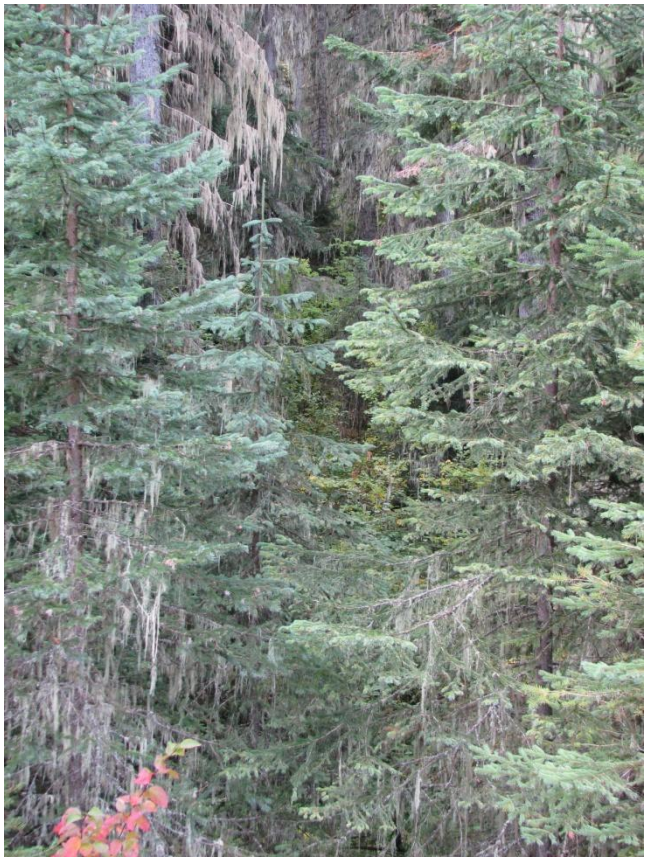
Forest Plan Revision Collaborative Group Meeting, February 2013

Laws

- Multiple Use Sustained Yield Act – 1960
- Forest and Rangeland Renewable Resources Planning Act – 1974
- Forest Management Act - 1976

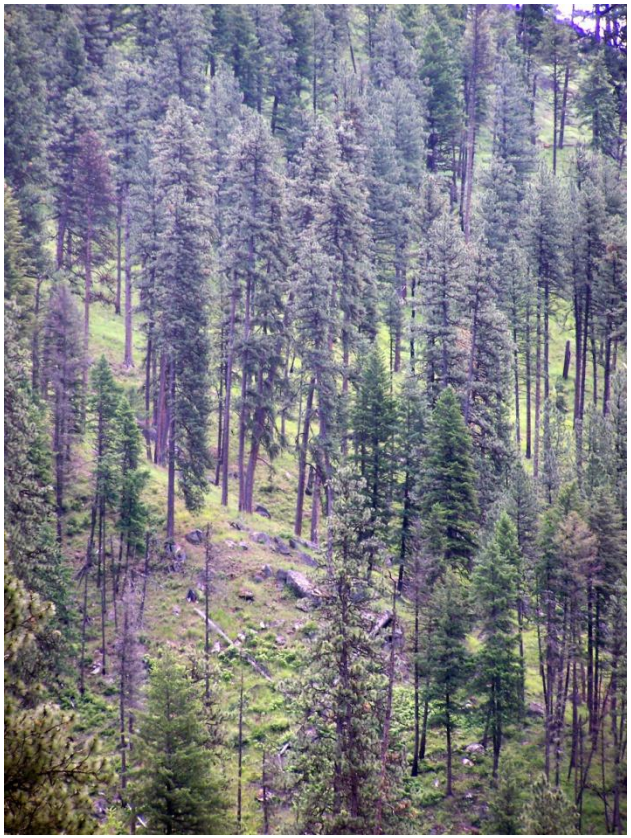
Variability

North to South

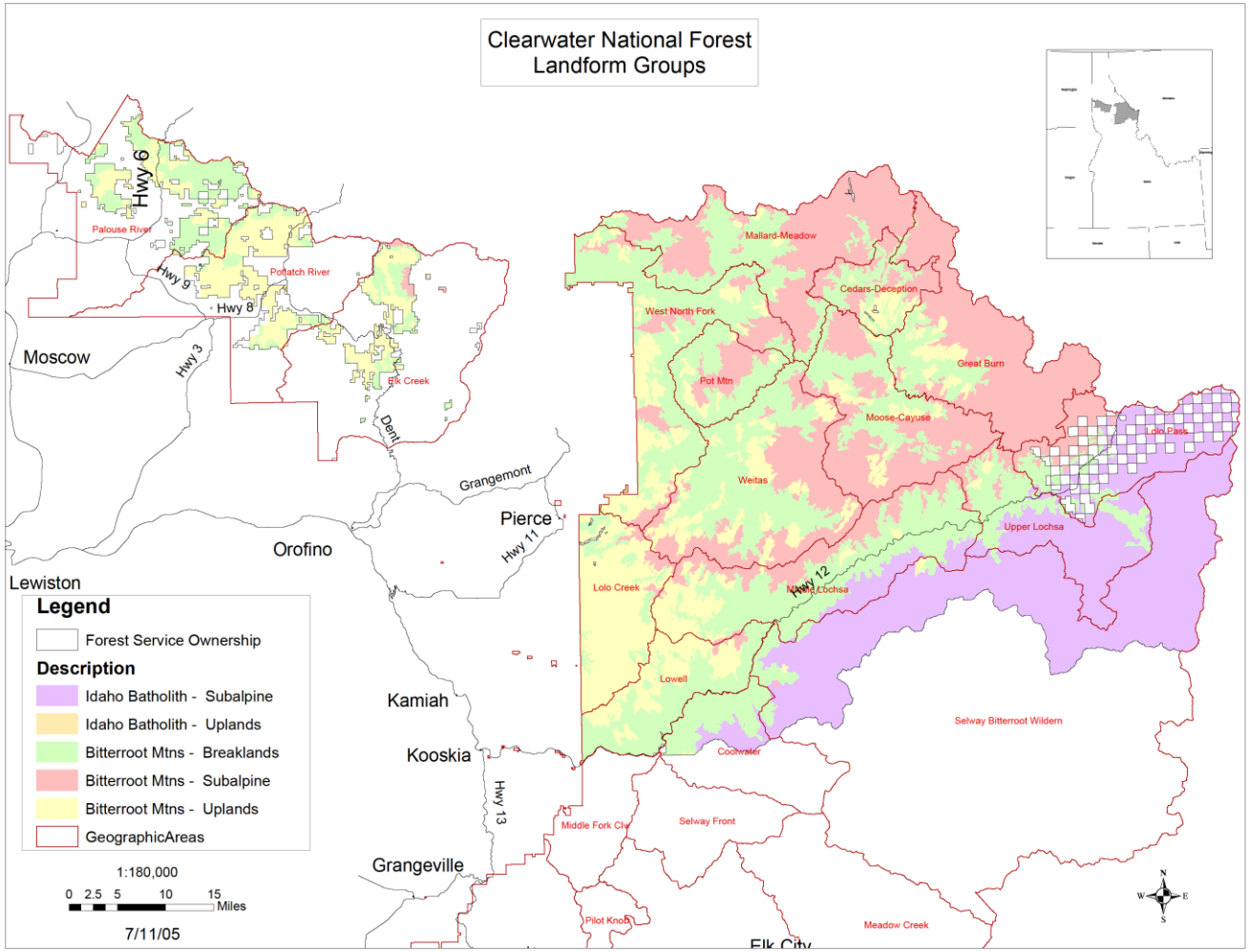


Variability

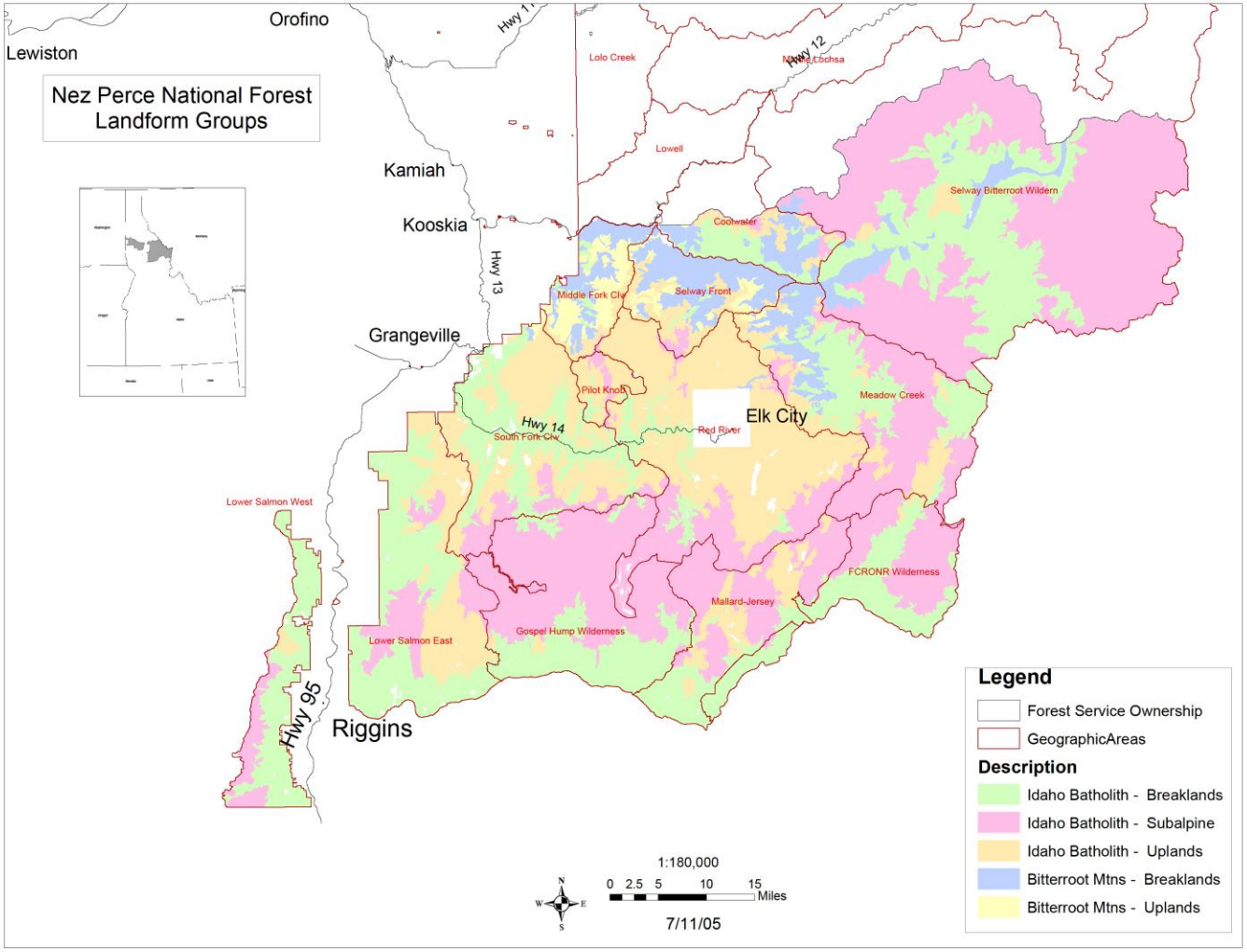
Lower elevation to higher elevation



Bailey's Sections and Subsections - Clearwater



Bailey's Sections and Subsections – Nez Perce



Idaho Batholith Breaklands

- Adjacent to rivers and larger streams
- Steep ground
- North and south aspects have different ecology

Bitterroot Mountains Breaklands

- Adjacent to rivers and larger streams
- Steep ground
- North and south aspects have different ecology

Uplands

- Higher elevation
- Rolling topography

Deeper soils

Moderate climate

Idaho Batholith Subalpine

- Higher elevation
- Mixed topography

Colder climate

Bitterroot Mountains Subalpine

- Higher elevation
- Mixed topography

Colder climate

Forest Types

Examples:

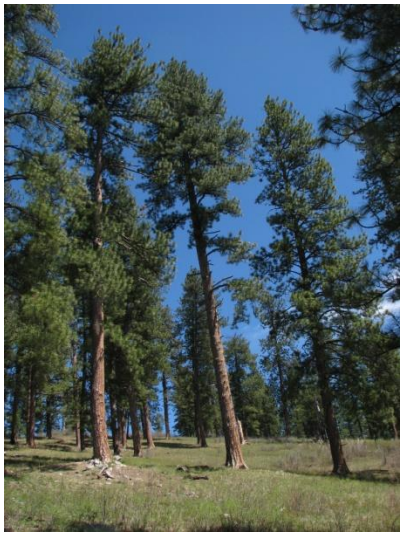
PP – ponderosa pine

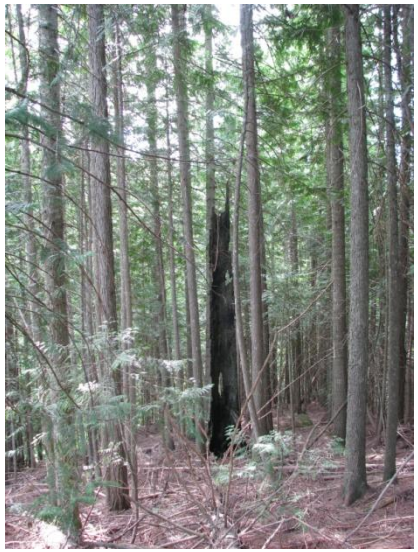
DF – Douglas-fir

GF- grand fir

WRC – western redcedar

These include mixes of these species, but they make up the character of the stand.





Size Classes:

Seral shrubs

Trees:

0” to 5”

5” to 15”

15” to 20”

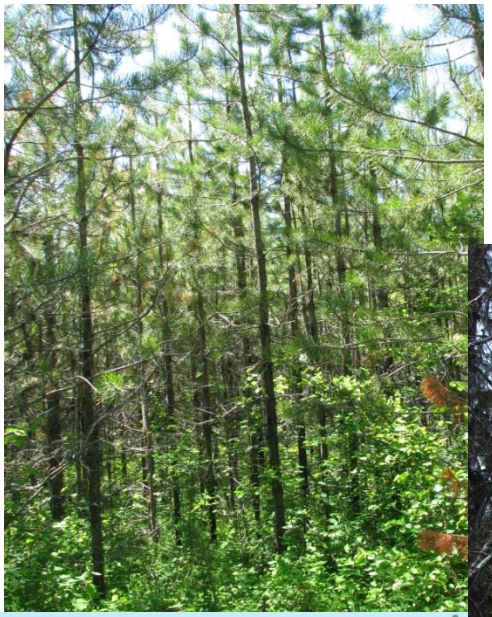
20” and greater

Structure

Single-storied

Two-storied

Multi-storied



Dead Wood

Both standing and down

Disturbance Regimes

- Fire
- Insects
- Disease
- Climate Variation

Patch Sizes

Scale of disturbance – varies by subsection, driven by fire regimes and insect/disease cycles.

1. **Breaklands – large, every 5 to 50 years, low to moderate severity**
2. **Uplands – small to large, every 50 to 200+ years, moderate to high severity**
3. **Subalpine – small to large, every 50 to 150+ years, moderate to high severity**

Historic Range of Variation

shows what conditions provide for sustainable systems.

Desired Conditions.

Current vegetation

Compared to HRV leads to

Objectives

Bitterroot Forest Reserve

1898 Report by John Leiberg

- Identified 12 forest species
- The white pine type covered 30% of the Bitterroot Reserve – mostly on the Clearwater
- The ponderosa pine type covered 32% of the Reserve – mostly on the Nez Perce
- Larch was also a major component with white pine, and extended beyond the range of white pine
- 40% of the reserve had burned in the previous 50 years.

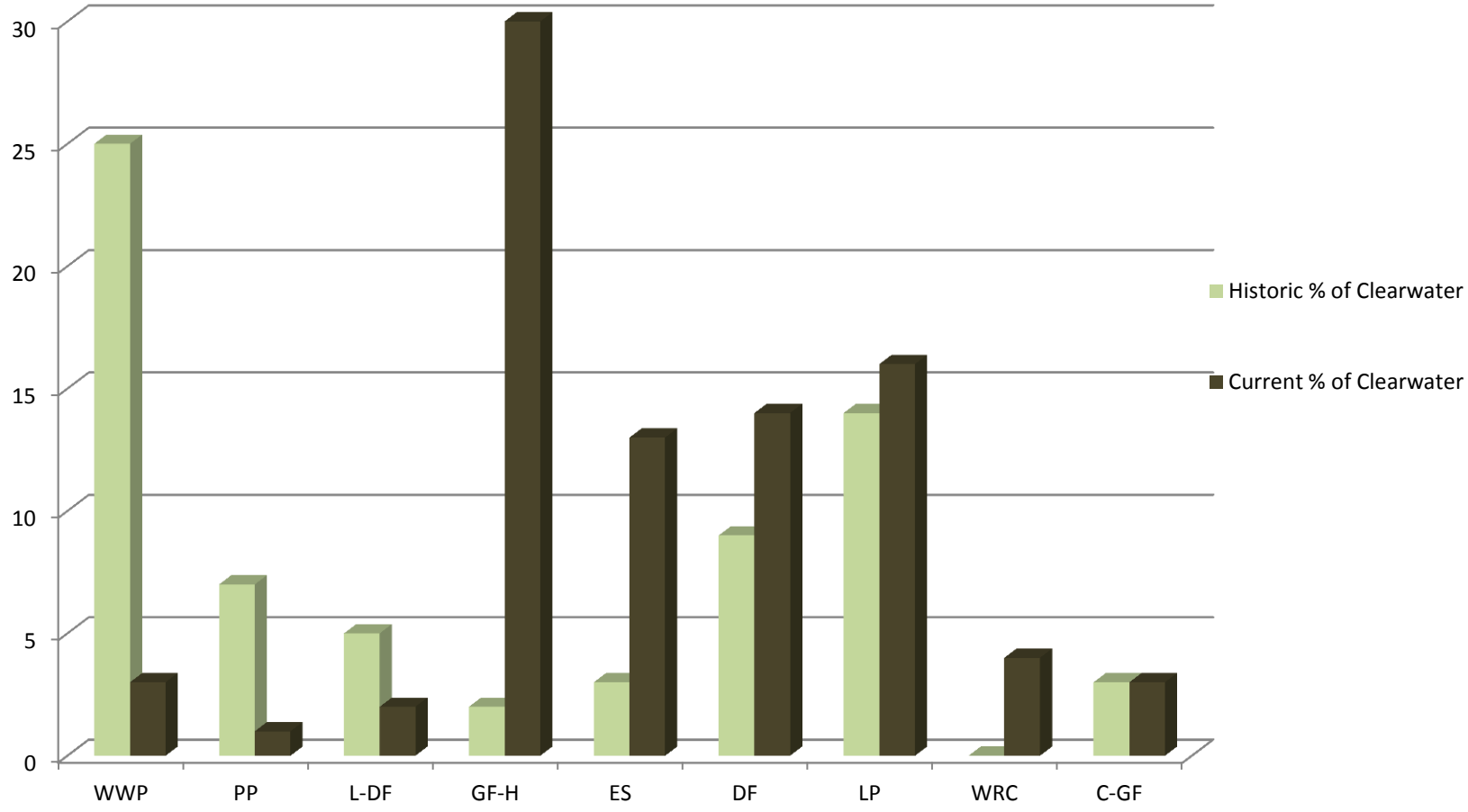
Changes In Forest Composition

- **Historically dominated by potentially long-lived, shade-intolerant, drought-tolerant, fire-adapted tree species:**

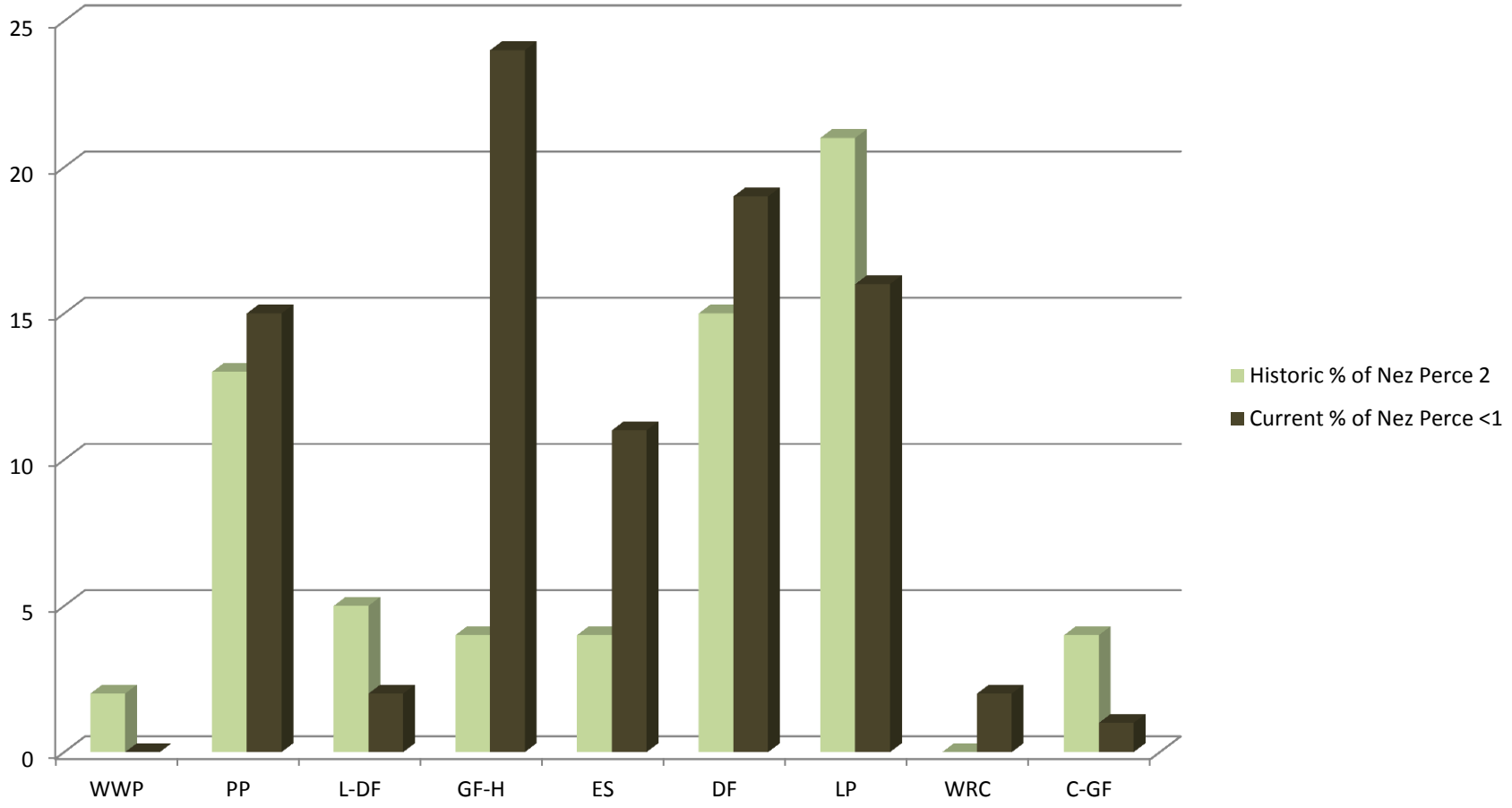
  white pine / larch / ponderosa pine / whitebark pine;

- **Currently dominated by shade-tolerant, drought & fire sensitive, & short-lived late seral species:**
  - **grand fir / western hemlock / Douglas-fir / cedar**

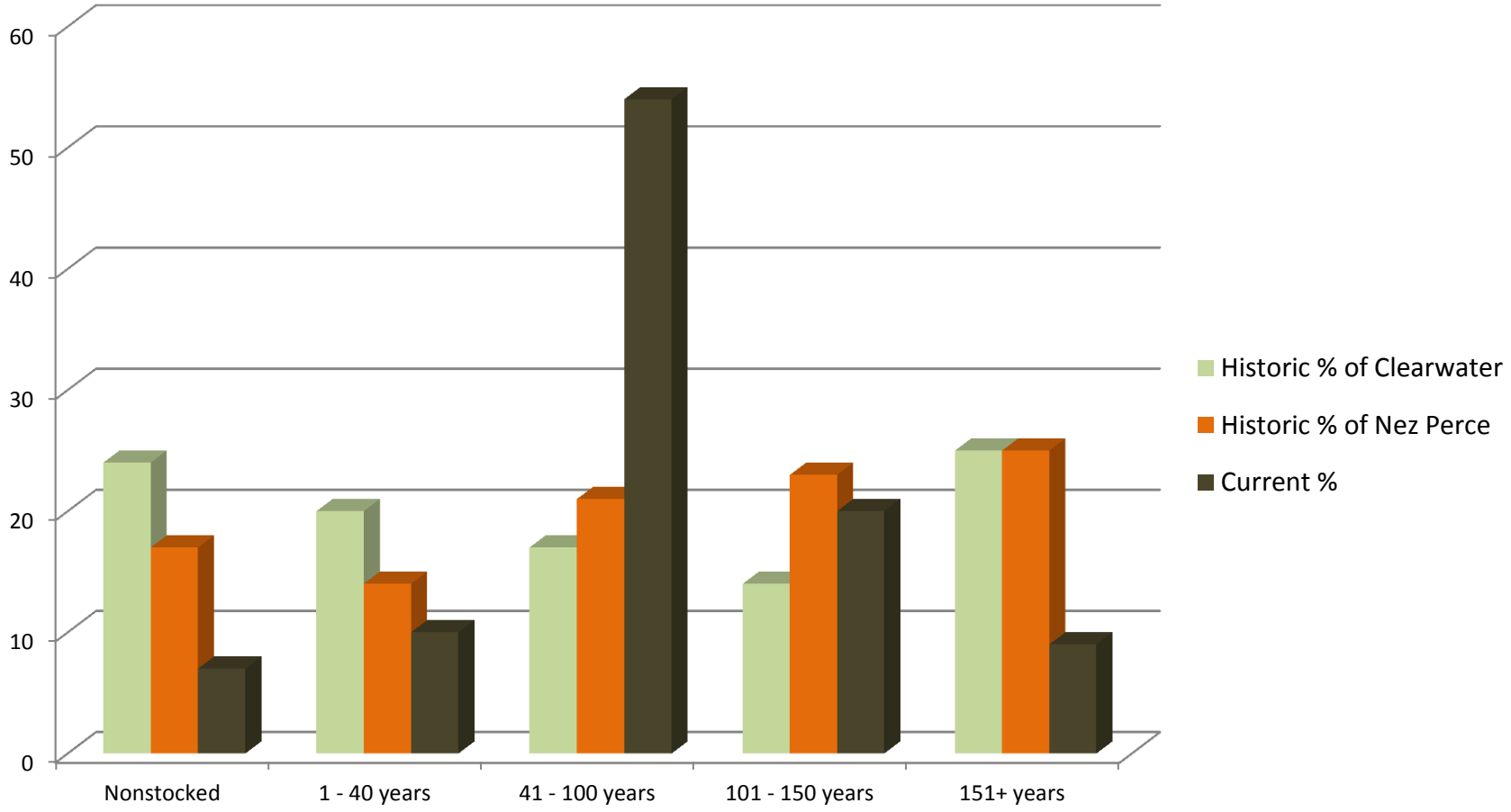
Changes in Forest Cover Types – Clearwater NF



Changes in Forest Cover Types – Nez Perce NF



Historic and Current Age Class Distribution

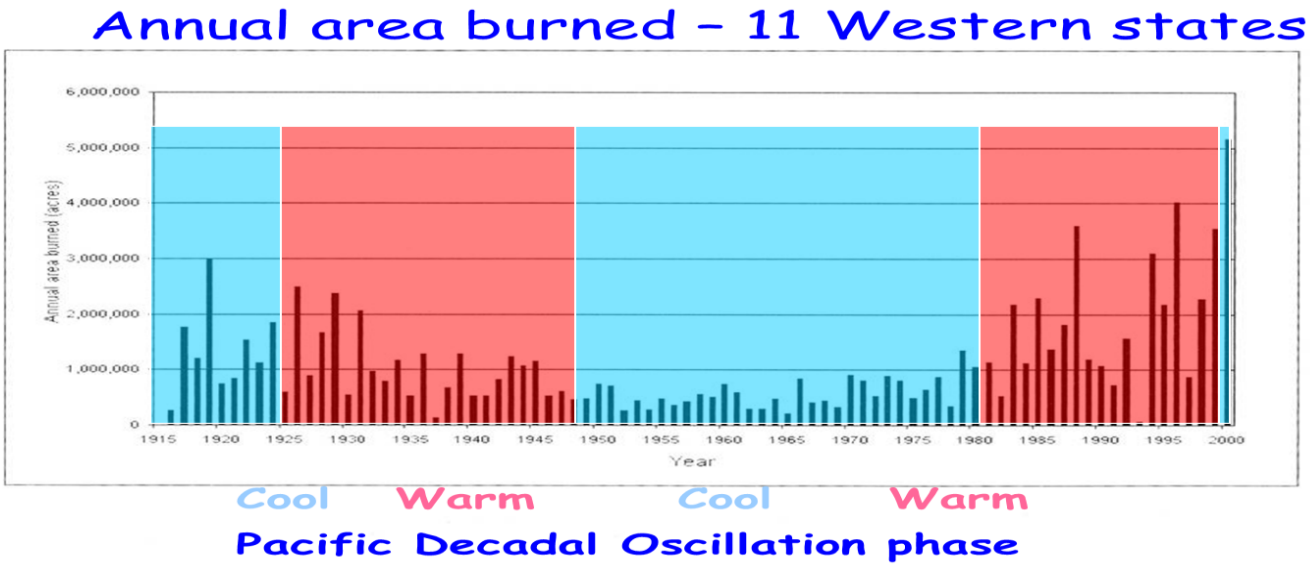


Causes of Forest Change

- White Pine Blister Rust *(exotic disease);*
- Big fires in early 20th century;
- Fire suppression;
- Past timber harvest practices

Climate Variation

- Climate goes through cycles. We are currently in a warm, dry phase, though in the 1940s through 1970s, we were in a cool, moist variation. Fire occurrence and extent have been tied to these climate variations.



From David L. Peterson, USDA Forest Service, PNW Research Station

Implications of Forest Changes: *So What ??*

- Lower resilience to drought;
- Increasing risk from Insects & Diseases
  - Root pathogens / bark beetles / defoliators;
  - More insect & disease mortality = more rapid build up of dead fuels & ladder fuels;
- Increasing risk of severe wildfires;
- Less resilience to climate variations.

Proposed Forest Vegetation Plan Components

- Desired Conditions
  - Species Resilient to Drought
  - Insect and Disease Resistant
  - Species that are Fire resistant
  - Better size class distribution
  - Less dense stands

Proposed Forest Vegetation Plan Components

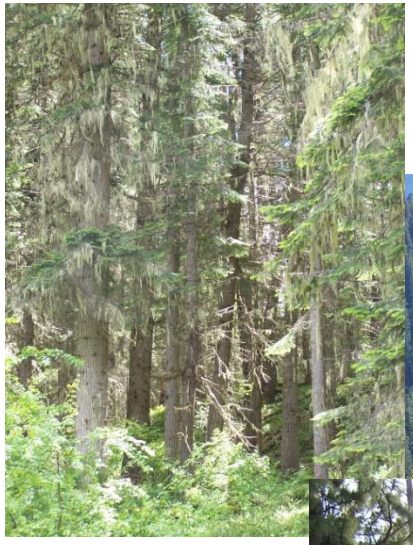
Objectives

- Treat about 250,000 acres across the Forest, on all settings, to facilitate moving the vegetation from current conditions toward desired conditions

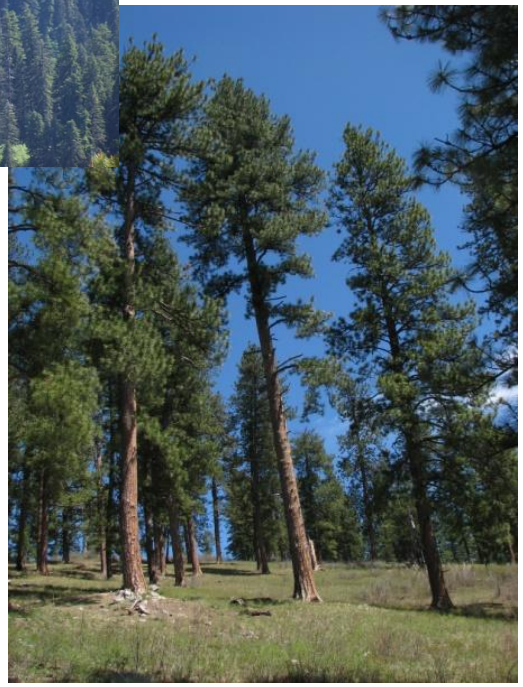
Guidelines

- Favor long-lived, shade intolerant, drought tolerant, fire-adapted species

Connecting ‘Vegetation’ with ‘Habitat’



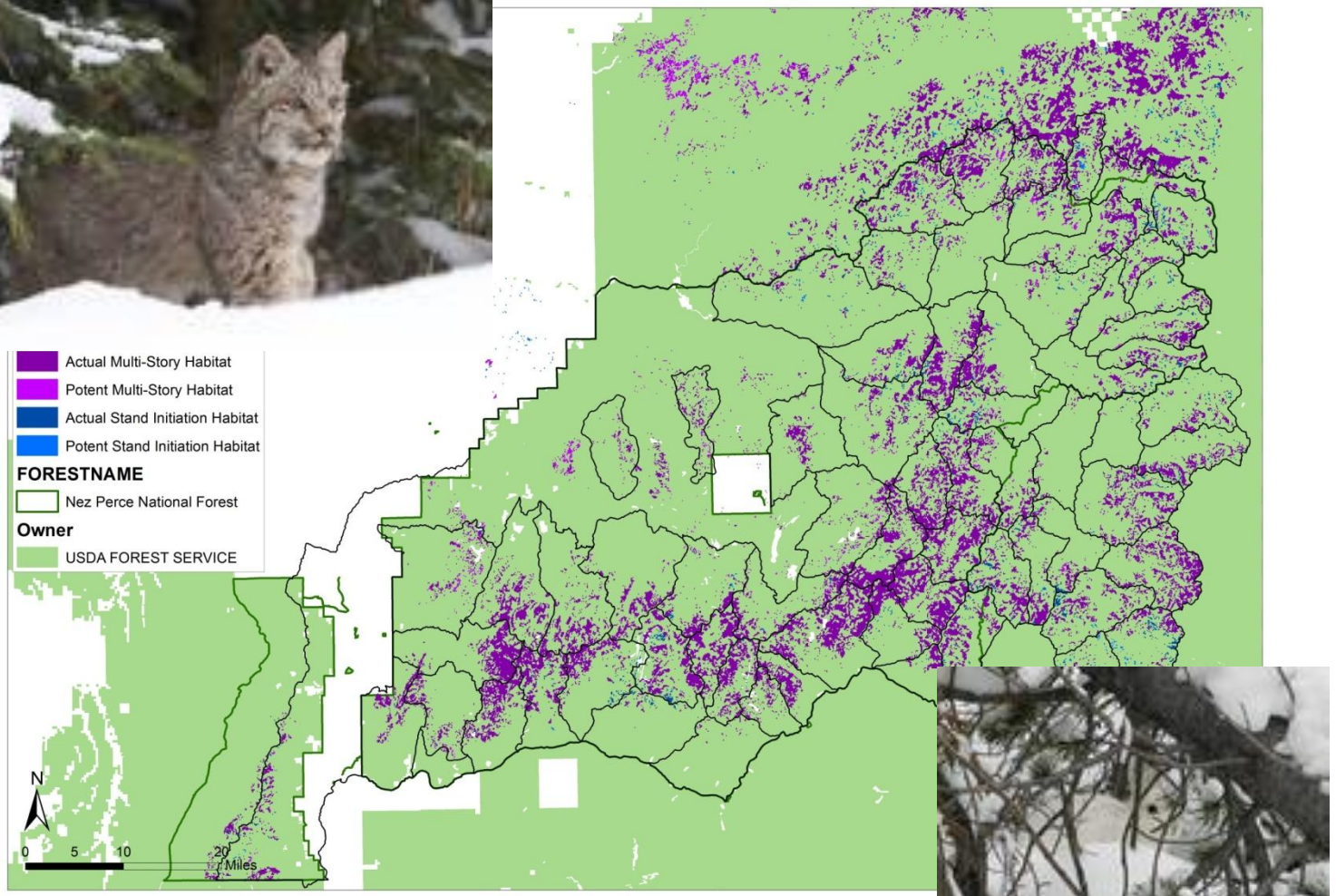
Food
Shelter
Reproduction

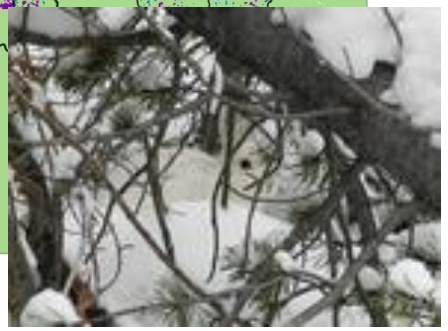


Species
Diversity

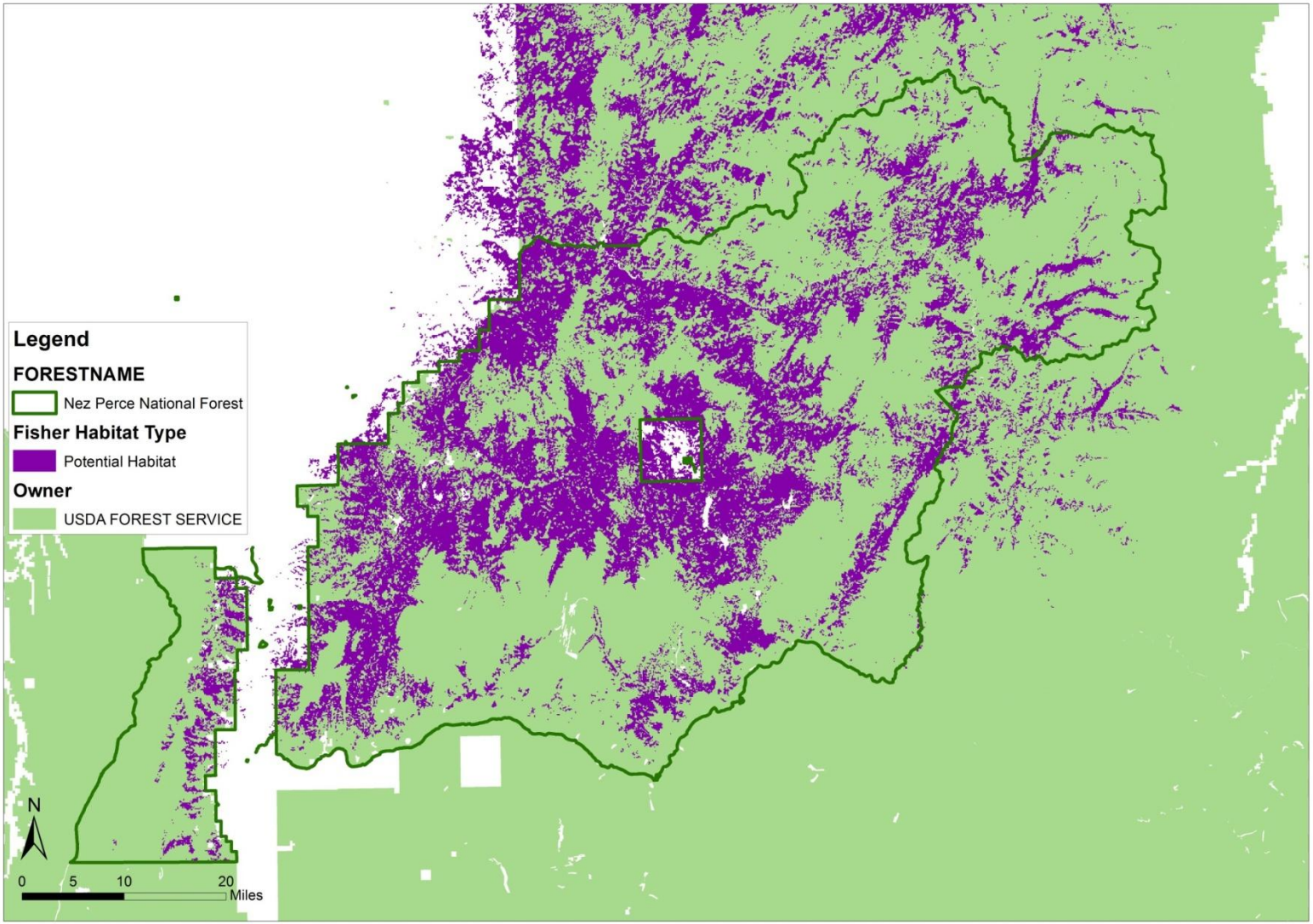
Seral Grass/Shrubs and Small Trees

Dense Small Trees and Trees 15” to 20”





Trees 15” to 20” and Over 20”



Works-in-Progress

- Identification of Species of Conservation Concern
- Modeling and Mapping of Specific Habitats
- Motorized Influences

Forest-wide Plan Components

Habitat Needs Not Related to Vegetation

- Security --- motorized disturbance
- Habitat access ---bat gates
- Limiting disease transmission --- bighorn sheep

Idaho Fish and Game

Role in Forest Plan Revision Process

Fish and Game Mission Statement

- **“All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall be only captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping."**

Fish and Game's Role

in Forest Plan Revision

Partnership . . .

Partnership Goals

My Roles

- ID Team member
  - Inform the Assessment – data, surveys, trends
  - Assist with interpretation of science into Plan
  - Meet F&G wildlife objectives, goals, mandates
- Collaborative Member

Non- Forest Vegetation Overview

Non-Forest Components

- Shrublands
- Grasslands
- Rock outcroppings
- Other inclusions
- Approx 15% of breaklands and <5% of uplands

Non-Forest Uplands

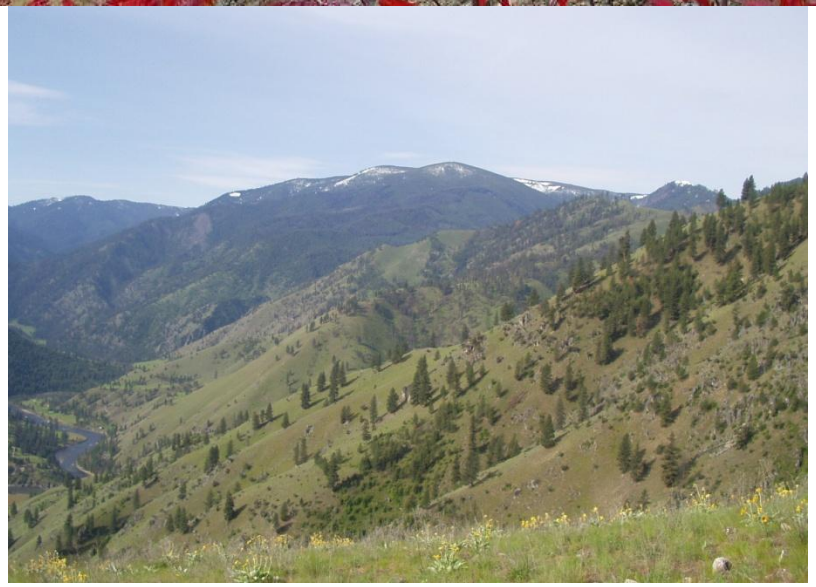
- Shrublands dominated by ninebark, ocean spray, alder, snowberry, menziesia and others species.

- Grasslands and dry meadows dominated by Idaho fescue, mountain brome, blue wildrye, sedges and other species

Non-Forest Breaklands

- Shrublands dominated by mountain mahogany, hackberry, and smooth sumac.

- Grasslands dominated by bluebunch wheatgrass, Idaho fescue, prairie junegrass, Sandburg's bluegrass and a variety of native forbs.

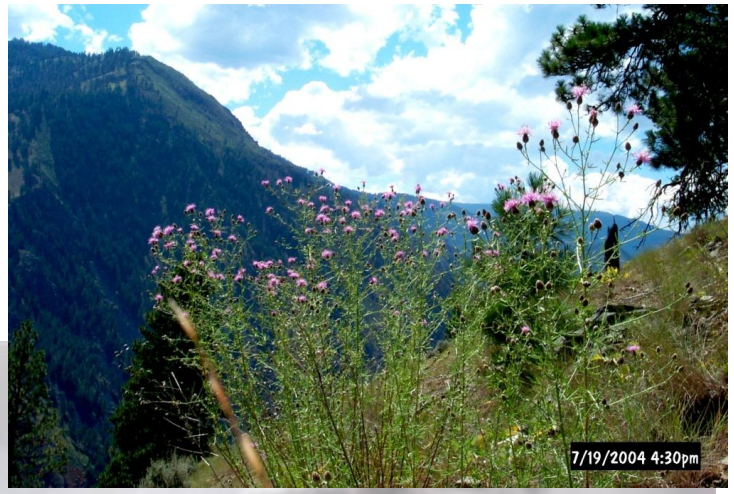


The Diverse Value of Grasslands

Grasslands provide habitat for rare plant species

Adverse impacts (stressors) can alter grasslands

- Livestock intensity/practices (primarily historic)
- "Un-natural" fire effects
- Invasive weeds



Current grassland conditions on the Forests

Limited data, representative areas indicate:

- >50% high native integrity
- <25% low native integrity

Invasive Weeds Pose a Serious Threat

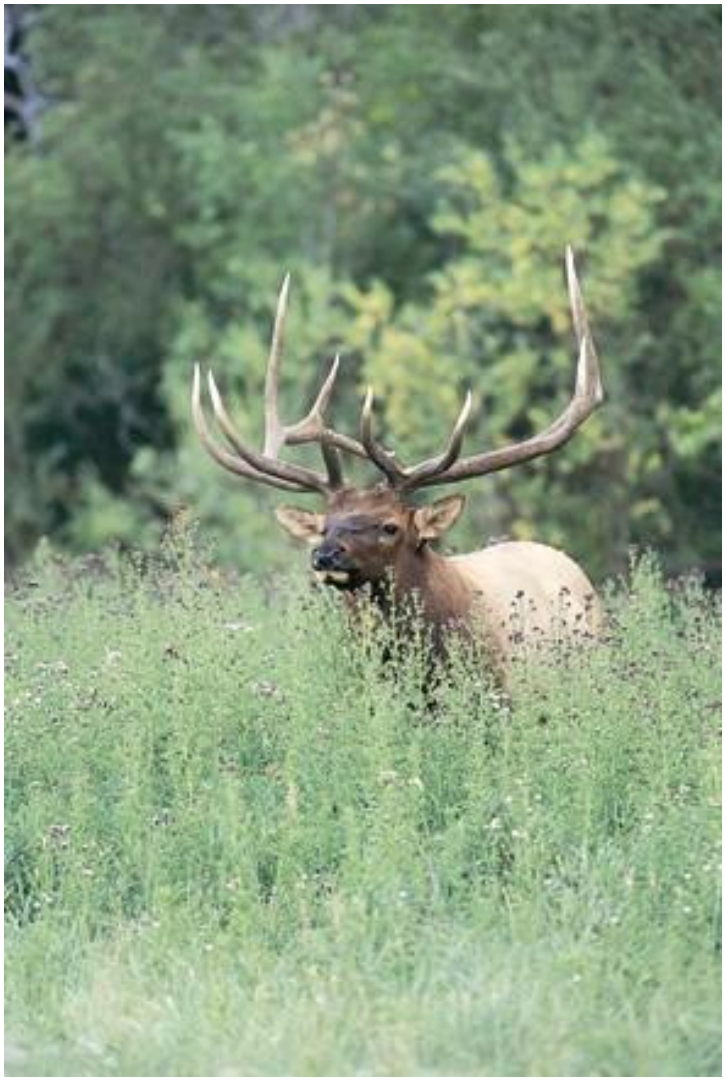
Warm, dry canyon environments are especially vulnerable to invasive weeds

- 425,000 acres infested
- 80 different species

- 500,000 acres weed free

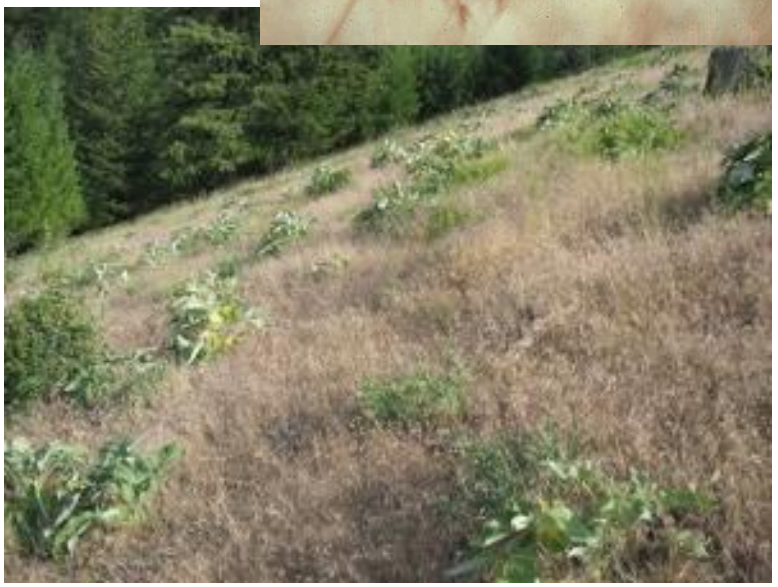
Invasive Weeds Alter Ecological Processes

- Displace native vegetation
- Wildlife habitat and forage
- Fire frequency & intensity
- Surface erosion



Invasive Weeds of Highest Concern

- Cheatgrass, Medusahead Rye, and Wiregrass
- Yellow/Orange Hawkweed
- Spotted Knapweed
- Rush Skeletonweed
- Yellow Starthistle
- Sulfur Cinquefoil



Proposed Forest Plan Components
Non-Forest Vegetation

- Desired Condition
  - Native plant communities
  - No new invasive weed species
- Objectives
  - Cooperation
  - Integrated Pest Management
  - Reduce conifer encroachment
  - Sensitive plant habitat protection and maintenance
- Guidelines:
  - Specific livestock grazing guidelines
  - Weed free feed and seed